

CLAIMS

What is claimed is:

5 1. A power status notification device (PSND) for reporting the status of power supplied through an electric outlet, the device comprising:

a power status component capable of detecting a change in the status of the power supplied through an electric outlet;

10 a power supply component that receives power from the electric outlet and also from a telephone line;

a power supply monitor component for detecting a change in the amount of power in the power status notification device power supply;

a memory component for storing programmable and reprogrammable information;

15 a signal transmission component for transmitting a signal to an integrated voice response system (IVR); and

a signal receiving component for receiving a signal from an IVR.

20 2. The PSND of claim 1, further comprising a microcontroller.

3. The PSND of claim 2, wherein the microcontroller comprises a microprocessor.

4. The PSND of claim 1, wherein the power supply component comprises a capacitor.

5. The PSND of claim 1, wherein the power supply monitor component
5 comprises a reset chip.

6. The PSND of claim 1, wherein the memory component comprises an
electronic erasable programmable read only memory chip (EEPROM).

10 7. The PSND of claim 1, wherein the memory component stores programmable
information comprising a response time T.

8. The PSND of claim 1, wherein the memory component comprises
identification (ID) data.

15 9. The PSND of claim 8, wherein the ID data comprises an identification number
unique to the power status notification device.

10. The PSND of claim 1, wherein the memory component comprises a phone
20 number associated with the IVR.

11. The PSND of claim 1, wherein the memory component comprises a call attempt limit.

5 12. The PSND of claim 1, wherein the memory component comprises location information relating to the whereabouts of the power status notification device.

13. The PSND of claim 12, wherein location information comprises the address of the premises where the power status notification device is installed.

10 14. The PSND of claim 1, wherein the memory component comprises a heartbeat time.

15. A system for reporting the status of power supplied through an electric outlet,
the system comprising:

a power status notification device (PSND);

a telecommunications network; and

an integrated voice response system (IVR), wherein the PSND monitors
the status of the power supplied through the electric outlet and communicates the
status of the power supplied to the IVR via the telecommunications network.

16. The system of claim 15 wherein the telecommunications network comprises a
telephone network.

17. The system of claim 15, further comprising a remote terminal for
programming the PSND.

18. The system of claim 17, wherein the remote terminal comprises a computer.

19. The system of claim 17, wherein the remote terminal comprises a laptop
computer.

20. The system of claim 15, further comprising a reporting device for generating
a power status report.

21. The system of claim 20, wherein the reporting device comprises a telecommunications device.

22. The system of claim 21, wherein the telecommunications device comprises a pager.

23. The system of claim 21, wherein the telecommunications device comprises a cellular phone.

24. The system of claim 21, wherein the telecommunications device comprises a voice mail system and the notification report comprises a voice mail message.

25. The system of claim 21, wherein the telecommunications device comprises a fax machine.

26. The system of claim 20, wherein the reporting device comprises a printer.

27. The system of claim 20, wherein the reporting device comprises a monitor.

28. A power status notification device (PSND) for reporting the status of power supplied through an electric outlet, the device comprising:

a power status component, wherein the power status component detects a change in the status of the power supplied through an electric outlet;

a capacitor, wherein the capacitor receives power from the electric outlet and also from a telephone line;

a reset chip, wherein the reset chip detects a change in the amount of power in the power status notification device power supply;

a DTMF Out component, wherein the DTMF Out component transmits DTMF tones;

a DTMF In component, wherein the DTMF In component receives DTMF tones; and

an electronic erasable programmable memory component (EEPROM), wherein the EEPROM stores programmable information comprising:

a customer ID number,

a response time T,

a phone number associated with an IVR, and

a call attempt limit, wherein the programmable information may be entered into the EEPROM using a remote terminal.

29. A method for reporting a change in the power status of power supplied through an electric outlet, the method comprising:

detecting the change in the power status of the power supplied through the electric outlet;

5 placing a call to an integrated voice response system (IVR) using a telecommunications network; and

transmitting power status notification information to the IVR.

30. The method of claim 29, wherein transmitting the power status notification information comprises:

transmitting an identifying signal to the IVR, wherein the identifying signal is recognizable as being transmitted by a power status notification device; and

15 in response to a receipt of an acknowledgement signal, transmitting power status notification information to the IVR.

31. The method of claim 30, further comprising the step of generating a report containing the power status notification information using a reporting device.

20 32. The method of claim 31, wherein the change in the power status comprises an electric power outage.

33. The method of claim 31, wherein the change in the power status comprises an electric power restoration.

34. The method of claim 31, wherein the telecommunications network comprises a telephone network.

35. The method of claim 31, wherein the power status notification information comprises identification (ID) data.

36. The method of claim 35, wherein the identification data comprises an identification number unique to the power status notification device.

37. The method of claim 31, wherein the power status notification information comprises a power status indicator.

38. The method of claim 37, wherein the power status indicator comprises a "0" tone.

39. The method of claim 37, wherein the power status indicator comprises a "1" tone.

40. The method of claim 31, wherein the power status notification information comprises location information relating to the whereabouts of the power status notification device.

5 41. The method of claim 40, wherein location information comprises the address of the premises where the power status notification device is installed.

42. The method of claim 31, wherein the identifying signal comprises a DTMF tone.

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43. The method of claim 42, wherein the DTMF tone comprises a sinc pulse.

44. The method of claim 43, wherein the sinc pulse comprises an A tone.

15 45. The method of claim 31, wherein the acknowledgement signal comprises a DTMF tone.

46. The method of claim 45, wherein the DTMF tone comprises a “#” tone.

20 47. The method of claim 31, wherein the reporting device comprises a telecommunications device.

48. The method of claim 47, wherein the telecommunications device comprises a pager and the report comprises a page.

49. The method of claim 47, wherein the telecommunications device comprises a cellular phone and the report comprises a voice message.

50. The method of claim 47, wherein the telecommunications device comprises a voice mail system and the report comprises a voice mail message.

51. The method of claim 47, wherein the telecommunications device comprises a fax machine and the report comprises a fax.

52. The method of claim 31, wherein the reporting device comprises a printer and the report comprises a print-out.

53. The method of claim 31, wherein the reporting device comprises a monitor, and the method of claim 31 further comprises generating a user interface on the screen of the monitor, wherein the user interface displays power status notification information.

54. The method of claim 53, wherein the IVR is at a location remote from the electric utility, and wherein the user interface comprises a World Wide Web browser.

5 55. The method of claim 31, further comprising the step of:
prior to placing a call to an integrated voice response system (IVR) using a telecommunications network, waiting a response time T.

10 56. The method of claim 55, wherein the response time T is programmable and reprogrammable.

15 57. The method of claim 55, wherein the response time T comprises a time in a range from about 10 seconds to about 4:45 seconds.

58. A method for reporting a change in the power status of power supplied through an electric outlet, the method comprising:

detecting the change in the power status of the power supplied through the electric outlet;

5 placing a call to an integrated voice response system (IVR) using a telephone network;

transmitting an identifying signal to the IVR, wherein the identifying signal is recognizable as being transmitted by a power status notification device;

10 in response to a receipt of an acknowledgement signal, transmitting power status notification information to the IVR; and

using the power status notification information transmitted, generating a report containing the power status notification information using a reporting device.

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59. A computer-readable medium having stored thereon computer executable instructions for performing a method for reporting the status of power supplied through an electric outlet, the method comprising:

in response to the detection of a change in the power status of the power supplied through the electric outlet, placing a call to an integrated voice response system (IVR) using a telecommunications network; and transmitting power status notification information to the IVR.

60. The computer-readable medium of claim 1, wherein the step of transmitting the power status notification information comprises:

transmitting an identifying signal to the IVR, wherein the identifying signal is recognizable as being transmitted by a power status notification device; and

in response to a receipt of an acknowledgement signal, transmitting power status notification information to the IVR.

61. The computer-readable medium of claim 60, wherein the change in the power status comprises an electric power outage.

62. The computer-readable medium of claim 60, wherein the change in the power status comprises an electric power restoration.

63. The computer-readable medium of claim 60, wherein the telecommunications network comprises a telephone network.

64. The computer-readable medium of claim 60, wherein the power status notification information comprises identification (ID) data.

65. The computer-readable medium of claim 60, wherein the ID data comprises an identification number unique to the power status notification device.

66. The computer-readable medium of claim 60, wherein the power status notification information comprises a power status indicator.

67. The computer-readable medium of claim 66, wherein the power status indicator comprises a "0" tone.

68. The computer-readable medium of claim 66, wherein the power status indicator comprises a "1" tone.

69. The computer-readable medium of claim 60, wherein the power status notification information comprises location information relating to the whereabouts of the power status notification device.

70. The computer-readable medium of claim 69, wherein location information comprises the address of the premises where the power status notification device is installed.

5 71. The computer-readable medium of claim 60, wherein the identifying signal comprises a DTMF tone.

72. The computer-readable medium of claim 71, wherein the DTMF tone comprises a sinc pulse.

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73. The computer-readable medium of claim 72, wherein the sinc pulse comprises an A tone.

74. The computer-readable medium of claim 60, wherein the acknowledgement
15 signal comprises a DTMF tone.

75. The computer-readable medium of claim 74, wherein the DTMF tone comprises a "#" tone.

20 76. The computer-readable medium of claim 60, wherein the IVR is at a location remote to the electric utility.

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77. The computer-readable medium of claim 60, wherein the method further comprises the step of:

prior to placing a call to an integrated voice response system (IVR) using a telecommunications network, waiting a response time T.

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78. The computer-readable medium of claim 77, wherein the response time T is programmable and reprogrammable.

79. The computer-readable medium of claim 77, wherein the response time T comprises a time in a range from about 10 seconds to about 4:45 seconds.

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80. A computer-readable medium having computer executable instructions for performing steps comprising:

in response to the detection of a change in the power status of the power supplied through the electric outlet, placing a call to an integrated voice response

5 system (IVR) using a telecommunications network;

transmitting an identifying signal to the IVR, wherein the identifying signal is recognizable as being transmitted by a power status notification device;

and

10 in response to a receipt of an acknowledgement signal, transmitting power status notification information to the IVR.

5 in response to power being received through the electric outlet, deriving power from the electric outlet to maintain power in the power supply circuitry of the device; and

82. The method of claim 81, wherein the periodically deriving power from the telephone line step comprises:

seizing the telephone line of the telephone network, and
deriving power from the telephone line for an amount of time
20 necessary to maintain the power supply of the power supply circuitry at
an operational level.

83. The method of claim 82, wherein the response time T comprises a time in a range of about 10 seconds to about 4:45 seconds.

5 84. The method of claim 82, wherein the response time T is programmable and reprogrammable.

85. The method of claim 82, wherein the pre-determined time comprises about 30 seconds.

10 86. The method of claim 82, where the amount of time necessary comprises about 5 seconds.

87. A method for maintaining the power the power supply circuitry of an electric power status notification device, wherein the device is coupled with an electric power outlet capable of supplying power and wherein the device is coupled to a telephone line of a telephone network, the method comprising:

5 in response to power being received through the electric outlet, deriving power from the electric outlet to maintain power in the power supply circuitry of the device; and

10 in response to an interruption of power supplied through the electric outlet, and in response to a determination that a response time T is greater than a pre-determined time based on the design of the power supply circuitry,

 seizing the telephone line of the telephone network, and

 deriving power from the telephone line for an amount of time necessary to maintain the power supply of the power supply circuitry at an operational level.

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88. The method of claim 87, wherein the response time T comprises a time in a range of about 10 seconds to about 4:45 seconds.

89. The method of claim 87, wherein the response time T is programmable and
20 reprogrammable.

90. The method of claim 87, wherein the predetermined time comprises 30 seconds.

91. The method of claim 87, where the amount of time necessary comprises 5
5 seconds.